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Practical Aspects of Meat Inspection*

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Viewing the livestock industry as a whole one cannot fail to be impressed by the improvement in the last 50 years in the conformation of the food animals and in their ability to mature early.

Selective breeding has produced an animal light in bone, early maturing, and in keeping with the public demand for leaner and smaller joints.

The killing-out weight and its comparison with the weight of the live animal is of importance and depends upon three factors, *viz.*, breed, feeding, and age. It is found that the beast of two and a half years of age kills out best, and in Scotland cattle are produced which will kill-out as high as 70 per cent. The fact that these Scottish animals suckle their dams for a long period and never lose their calf fat are important factors in the achieving of this high percentage, and in addition these stall-fed animals are groomed and handled regularly, producing in them an equable temperament which encourages early fattening.

With regard to sheep, all fat sheep in wool will kill-out at 50 per cent. or over, while the pig with its small internal organs will kill-out at around 75 per cent.

In the slaughter of food animals the essentials are a painless despatch and the ensuring of complete and satisfactory bleeding. The latter can best be achieved if the heart and lungs continue to function after the neck vessels are severed. For this reason the introduction of the electrical method of stunning sheep and pigs has proved the greatest advance in humane slaughter in the last decade. The current would appear to cause what is described as a confusional state of the brain, with unconsciousness, and this electrical method of slaughter receives the unqualified approval of the bacon curer, who requires above all a well bled carcase.

In addition to efficient bleeding it is desirable that the carcase should be firm; in other words, that it should set. If the animal is fatigued prior to slaughter the carcase sets badly, and although the flesh is perfectly marketable and safe this lack of setting is undesirable as the carcase is more difficult to cut up, the joints lose their proper shape and there is more waste. But lack of setting may also be an indication of disease and is seen particularly in fevered animals which are dropsical and emaciated, and it is therefore a suspicious indication to the meat inspector. Oddly enough, a tuberculous carcase of beef or pork, even when disease is advanced, usually sets firmly and well.

The emergency slaughter of the food animals is a necessary evil and calls for a mature and considered judgment on the part of the meat inspector. Where such slaughter must be carried out on the farm owing to the suffering involved if the animal is carted alive to a slaughterhouse, one finds, even amongst the profession, a lack of knowledge of the steps necessary to ensure that the animal will make a marketable product. At the beginning of the war, bearing in mind the possibility of air-raid damage to livestock, I drew up a list of instructions describing the procedure as to stunning, bleeding, evisceration and skinning on the farm. Those of you who are interested may like a copy of these instructions. Briefly the necessary steps consist of shooting, cutting clean across the neck, as in the Jewish method of slaughter, and then "possing." This north country term entails the looping of a piece of rope round the upper foreleg and while pulling on the rope the operator places his foot on the animal's flank and presses vigorously forwards. Actually it imitates a form of artificial respiration, is continued for five minutes at 15 posses per minute, and vastly improves bleeding. It is possible for a maximum period of 20 minutes after stunning or death to elapse before sticking, but the "possing" process must then be further prolonged. An early removal of the abdominal organs is also desirable and in no case should a period longer than an hour elapse before they are removed. Air should be allowed to circulate through the thorax by cutting through the diaphragm.

In the course of practice you will often be faced with the question as to whether emergency slaughter is indicated or whether the animal should go to a knacker's yard, and I am going to take a number of cases of emergency slaughter, types which we encounter within the slaughterhouse every week.

(1) *Johne's Disease.*—This disease, I understand, is still incurable, and as soon as it can be diagnosed in the live animal I recommend a prompt and early slaughter. Even where an animal is in a lean condition and unattractive to the eye it may still make an edible carcase, and the meat, though inferior, has a definite value for manufacturing purposes. Leanness or poorness do not invariably necessitate condemnation. I would like your views as to whether this disease is on the increase, as in Newcastle we have recently instituted a regular *post-mortem* examination of the terminal portion of the small intestine wherever bovines over a year and a half old and in lean condition are slaughtered and no obvious lesions calculated to cause the wasting are found. In practically every case the typical corrugation of Johne's disease is evident. The point is that if you send an early Johne's case to the slaughterhouse the intestines alone are likely to be condemned. When the disease is advanced the position is hopeless; the carcase is often oedematous and will be condemned.

(2) *Bullock with Lumpy Jaw.*—I use the common term here because it is comprehensive and includes the often confused conditions of actinomycosis and actinobacillosis. Actinomycosis, the true ray fungus, and usually involving the jaw bone, is much the rarer condition, its relative frequency to actinobacillosis being about one to ten. The type of actinobacillosis most commonly encountered in the slaughterhouse is a swelling and induration of the cheek muscles, with sometimes the tongue substance involved but without involvement of bone. On incising the muscle one is impressed by how its normal structure is almost entirely replaced by white glistening fibrous tissue with small glistening colonies standing up from the cut surface. Here, again, once actinobacillosis of the jaw muscle is diagnosed early slaughter would appear to be indicated before restriction of jaw movements interferes with nutrition. That the disease is acquired by inoculation through a lesion in the mouth is probable when one recollects that on the Continent numerous cases of actinobacillosis, almost reaching the proportions of an epidemic, have occurred after attacks of foot-and-mouth disease.

(3) *Animals Slaughtered as a result of Difficult Parturition.*—Cows and ewes are most frequently implicated, especially ewes in springtime, and the chief lesion found on *post-mortem* examination is the presence of bruised and inflamed tissue in the pelvic cavity. If caught in time, and bled promptly on the farm, such carcases usually set well and are passed for food without any ill-effects. Here again one must stress the importance of early evisceration, and if the stomachs and intestines are allowed to remain in the abdomen for more than an hour after slaughter the kidney fat will be green and the carcase will inevitably be condemned as a result of decomposition.

(4) *Traumatic Pericarditis.*—This is not uncommon, especially in cattle from colliery farms where old wire ropes are used for fencing. I am impressed by the number of healthy animals which on *post-mortem* examination, show healed lesions of the reticular wall and diaphragm—and adhesions between the two. The ruminant peritoneum possesses considerable powers of resistance to such injuries, and these powers of recovery might well be assisted by raising the fore part of the animal by standing it on an inclined plane. I would be interested to hear if you have any success with such treatment. As far as surgical measures are concerned these can only be described, in the words of our Prime Minister, as operations of peculiar complexity and hazard.

(5) *Milk fever* cases are not uncommon in spite of the successes to be obtained with calcium therapy and udder inflation. These are obviously cases which have not responded to treatment, and the animal is usually sent into the slaughterhouse in a moribund condition. It therefore bleeds badly and, in addition, by incising the prescapular gland, one can often detect an odour of turpentine or ether with which the animal has been dosed. These odours, affecting the flesh, are alone sufficient to render the carcase unmarketable. We encounter a crop of these milk fever cases in July. Perhaps you can tell me why? The possibility that the condition in many such animals is actually an acetonaemia or a magnesium deficiency, must not be ruled out.

On this question of odours it may be noted that a repulsive smell can often be detected in the carcase of a beast where a turnip has lodged in the oesophagus and slaughter has been necessary due to rupture of that organ. Sometimes the odour is so strong as to render condemnation of a carcase necessary. To the list of diseases detailed in Memo. 62/Foods and warranting total condem-

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nation of the carcase the condition "abnormal odours" should undoubtedly be added.

(6) *Septic Mastitis and Septic Metritis.*—Here we come to the dangerous cases, animals which I should like to put on the poisons list.

In Newcastle we find septic mastitis the commoner condition, but I should like to know if this is your experience in Yorkshire. These septic conditions are invariably associated with a period of high fever, inability to rise and a general moribund condition, and I do appeal to you who are practitioners not to risk sending these carcases to the slaughterhouses. The septic carcase is at times difficult to detect on *post-mortem* examination, and it is unfair to the inspector and the consumer that the practitioner should recommend salvage when the proper place for such carcases is the knacker's yard.

The gangrenous mastitis, showing a marked line of demarcation between healthy and necrotic tissue and a typical discoloration and odour, is another example of the cases which should never be sent to the slaughterhouse, for such are unhesitatingly condemned.

All these diseases, then, are commonly encountered in meat inspection, but the daily scourge of the inspector is, of course, tuberculosis.

(7) *Tuberculosis.*—I do not intend to dwell on the subjects of non-lesion reactors or immunising by the Vole bacillus because I know nothing of such matters, but I have always been particularly interested in the methods by which tubercle invades the animal body, how it spreads to the various organs and how it may be excreted.

(The speaker then demonstrated the above methods by means of charts.)

Miliary tuberculosis is always secondary to a lesion in some other part of the body, and it occurs as a crop of tubercles spread evenly throughout the lungs, all of an equal age and size, but not visible to the naked eye until some three weeks have elapsed. The true miliary tuberculosis is always a "killer," and the tubercles, therefore, never have time to caseate or become encapsuled.

In a lymphatic gland tuberculous lesions are generally not recognisable until caseation has commenced, and this indicates that the tubercle is at least six weeks old. Definite gritty lesions are at least two months old, while the presence of grapes on the pleura or peritoneum indicates that the disease is several months old, though here one cannot lay down any precise period.

Miliary tuberculosis of both lungs involves condemnation of the carcase, with the rare exception of when it is found in the lungs alone and in no other parts of the body and the tubercles are not numerous and not of recent origin. This very rarely happens but it can occur and Memo. 62/Foods recognises the possibility.

Tuberculous meningitis of the ox is an interesting condition. It is found in young stirky animals invariably sent to the slaughterhouse with a history that the animal had gone mad. The meninges are found dotted with small tubercles and the disease has many points in common with the tuberculous meningitis in children: (1) it is rarely encountered in the adult human or bovine; (2) the meningitis, which in itself is evidence of a blood stream infection, is not necessarily accompanied by miliary tuberculosis of the lungs, and (3) in both child and young animal the primary lesion may be so small as to be unrecognised.

Some of the fatal cases of so-called stomach staggers in young cattle might well repay the examination of the cranial cavity.

The question of tuberculous sputum is also an interesting one, and I would like to hear your experiences as to whether all sputum found in front of the cow invariably contains tubercle bacilli. But lesions rarely looked for, and not infrequently found in advanced disease, are tuberculous ulceration of the trachea, and in Tuberculosis Order examinations it is wise to split the trachea and examine for these.

In advanced disease tuberculous ulceration of the intestine is not uncommon, the ulcers being up to a shilling in size with thickened but slightly undermined edges.

The udder is, of course, the dangerous well, and it is not for me to deal with the recognition of it in the live animal, but the method of infection must interest us all. M'Fadyean's theory, advanced as far back as 1917, that tuberculous mastitis was a result of a lymphatic extension from the peritoneum, would appear the most satisfactory. With the tuberculous udder one would then expect a well-marked infection of the mesenteric lymph glands, and this is nearly always present but there is difficulty on *post-mortem* in detecting the disease in the udder tissue and in the supramammary glands. Indeed, I would say that gross lesions of the supramammary glands are not common, although the gland is invariably enlarged and oedematous. In the udder tissue one must not look for well-defined tubercles but rather a marked solidity and stiffness of the affected portion and an exaggerated appearance of lobulation. Actually necrosis or caseation would only be seen in advanced disease, but white or yellow streaks or specks on the lobules are seen in the earlier stages and indicate the onset of these degenerations.

I have perhaps been rather led away by this disease but tuberculosis is an evergreen. I might spend the last few moments, however, in considering the changes we may encounter in the meat trade in the difficult post-war period. Developments which may undoubtedly be looked for would be in the direction of the marking of home-killed meat after inspection, in the preservation of meat by improved methods, in the conditioning of carcases, and lastly in the continuance of a form of centralised slaughter.

The marking by a local authority of home-killed meat after its inspection is provided for by law but has never been generally adopted. Its great advantages are that it indicates that the carcase has been inspected, the consumer is assured of a sound product, and it provides a short method of tracing meat about which question may subsequently arise.

In the imported meat trade the difficulty of importing beef in the chilled condition from Australia and New Zealand was that moulds frequently developed on the meat surface involving trimming and condemnation. By the introduction of carbon dioxide gas into the ship's cooling chambers the growth of moulds is inhibited and beef can be imported chilled instead of frozen, the former being neater, more palatable and less wasteful, and commands a higher price than frozen.

Another development which we will have to face is the introduction from abroad of "quick frozen foods." One of the greatest objections to frozen meat is that during the freezing process large crystals of ice form in the muscle cells, and on thawing it in this country the cells are ruptured and the meat drips or "weeps." By very rapid freezing the crystals formed are minute and "weeping" is obviated. The "quick freezing" process has reached considerable proportions in America where there is a considerable trade in cartons of quick frozen fish meat products and poultry.

These processes would seem to assure a rosy future for imported meat producers. For the hold they have already got we are much to blame, but the lost art of conditioning of meat in this country is one to which attention might be paid. This entails the keeping of meat at chilling room temperature for a period longer than that required for cooling and setting. The tenderness of meat depends on the amount of connective tissue present between the muscle fibres. There is, for example, three times as much connective tissue in the coarse flank muscles as in the tender undercut and by conditioning this connective tissue is broken down. This tenderness of the coarser joints of cow beef can be increased by over 50 per cent., and this also explains the tenderness of imported chilled meat which has undergone an enforced hanging during its sea journey.

The war, in Churchill's own words, is at the beginning of the end, and I feel that it is high time that the post-war policy regarding slaughterhouses and meat inspection received immediate discussion. The Ministries of Health and Agriculture are the bodies immediately concerned. To them, or to one of them, has come a priceless opportunity to place the trade and inspection on a level with other progressive powers, and if that opportunity is taken the veterinary surgeon may at last occupy the position in food inspection to which, by his training, he is rightfully entitled.

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Discussion

In opening the discussion Lt.-Col. J. A. Dixon expressed his pleasure at finding that meat inspection retained sufficient interest in the Division to be the subject of a paper and discussion, and congratulated Mr. Thornton on so ably presenting the subject. He agreed with the essayist on the improvements which had been made by the livestock industry in the quality of fat cattle and sheep, but lamented that such high quality beef cattle as mentioned by Mr. Thornton were very seldom seen in the abattoir in Leeds; as regards pigs, however, he was of opinion that the feeders were so concerned with carcase weights that they had little or no regard for the quality of the products. Before the war the quality of pork was greatly deteriorated by the feeding of fish meal, whilst now it is even worse from the intensive feeding on swill. With regard to electrical stunning, the meeting was reminded that some authorities had contended that animals submitted to electrical current across the nervous system were not really insensible, but completely paralysed, but all agreed that cattle felled by the captive bolt, and immediately and efficiently bled, yielded carcases which were quite satisfactory as to colour, setting and keeping properties. Colonel Dixon laid stress on the importance of the efficient inspection of the carcases of all animals slaughtered in emergency, pointing out that it was just these carcases which were often the subject of septic infection which required the greatest care, and he deplored the instruction issued by the Ministry of Food that in certain circumstances slaughterhouse managers may undertake the inspection of and decision on emergency slaughtered animals. Emphasis was laid on the importance of the immediate evisceration of all animals slaughtered for food: many carcases were rendered unfit for food from default in this matter. It was the opinion from slaughterhouse experience that Johne's disease was increasing in its frequency; many cows were found on *post-mortem* examination to be affected with this disease, although their carcases were in good condition and the animals had evinced no symptoms of disease during life.

Actinomycosis was an interesting subject and it was suggested that the organism assumed a bacillary form in the lesions of the tongue and cheek muscles, whilst retaining the ordinary club shape and group form in the bone, but it did not now seem to be of importance in meat inspection what shape the causal organism assumed, as all parts affected should be condemned; it was interesting to note in the essayist's paper that actinomycosis often followed foot-and-mouth disease.

Colonel Dixon expressed disagreement with the statement in many books on meat inspection that actinomycosis of the udder should be looked out for among cows; in more than 40 years' meat inspection experience he had seen only two cases of udder lesion, which in their physical characteristics suggested actinomycosis, and in each of these cases, which were submitted to a research laboratory, it was declared that the causal organism was the *staphylococcus pyogenes aureus*. This point will be found to be mentioned in the new edition of Professor Leighton's book on meat inspection, with the preparation of which Colonel Dixon had had the honour to be associated.

It was Colonel Dixon's opinion that traumatic pericarditis had become less frequent, but he had no doubt that all cases showing the usual lesion of a considerable amount of septic material in the heart sac called for total condemnation.

Milk fever was also much less frequently seen in slaughterhouse practice; more modern methods of treatment saved so many cows in this disease that it was seldom a straightforward case of milk fever reached the slaughterhouse, and cases of milk fever in which slaughter was decided upon were nowadays practically always complicated with septic conditions which rendered the carcase and organs unfit for food. In the speaker's opinion no risks should be taken with carcases affected with septic mastitis and septic metritis; in his opinion all such carcases should be totally condemned.

With regard to tuberculosis, Colonel Dixon reminded the meeting that it was only in 1923 that the Ministry of Health gave any definite instructions regarding the inspection and judgment of the carcases or organs of animals affected with tuberculosis; these were embodied in Memo. 62/Foods, which although lacking in legal power, was of the greatest assistance to officers engaged in meat inspection. The speaker deplored the present tendency on the part of the Ministry of Food to relax some of the instructions contained in this memorandum. Before the war he frequently reminded butchers that the meat trade was committed to these instructions by its representation on the Departmental Committee, which made recommendations on which the memorandum was founded. In Colonel Dixon's opinion the Meat Branch of the Ministry of Food was operating a scheme which had been framed by butchers and was now being operated by butchers throughout the country. In his view it would appear that butchers now acting as servants of the Ministry of Food in running the meat control were taking advantage of their official position to destroy what little control and standards had been established with regard to slaughtering and meat inspection, by a lifetime of effort, but in his opinion the instructions contained in Memo. 62/Foods should be enforced to-day when the carcases were the property of the Ministry of Food just as strictly as they were enforced when carcases belonged to private traders. He reminded the meeting that it was only with regard to tuberculosis that the memorandum gave detailed instructions, and he urged everyone concerned in meat inspection to become word perfect on those instructions and to apply them literally.

With regard to the marking of carcases, the speaker reminded the meeting that meat marking was provided for in the Public Health (Meat) Regulations, 1924, when it was suggested that carcases should be marked with respect to health and fitness for food and he contrasted the little interest taken by the Ministry of Agriculture and Fisheries in such marking when it was a question of the health of the consumer, as compared with the enthusiasm of that Ministry with regard to meat marking some years later when it was an effort to obtain better prices for meat producers. In the speaker's opinion it could be expected that after the war there would be great advances in meat refrigeration, and there would be applied to ocean transport of meat, some of the lessons learnt by war-time experience. Although it could be expected that there would be a great improvement in the marketability and edibility of imported meat, such meat could never approximate to the carcases of first-class meat animals produced in this country and slaughtered here. In this connection, however, the speaker believed that it could be anticipated that the system of centralised slaughtering now improvised by the Ministry of Food would be retained and improved, and that as a result regional abattoirs would be established. In such a case it was of the highest importance to the public health that such establishments should be under the complete supervision and inspection of veterinary surgeons trained and experienced in meat inspection. Colonel Dixon looked to the Ministry of Agriculture and Fisheries to ensure the proper supervision of regional abattoirs which would only be the natural extension of the duties of the Animal Health Division of that Ministry.

Mr. Thornton, in reply to Colonel Dixon's remarks, said that he found himself in incomplete agreement with him. The killing-out weight of 65 per cent. was a maximum and all the animals slaughtered in Newcastle did not reach this standard. The electrical method of stunning produced a confusional state of the brain and was painless. This had been proved by butchers who had undergone stunning by this method. It also had the additional advantage of great cheapness. He did not agree with Colonel Dixon in saying that septic pericarditis warranted total condemnation. He did agree that the septic conditions, such as septic mastitis and metritis, were important but septic pericarditis did not always warrant total condemnation. He quoted Leighton as his authority. He agreed that centralised slaughtering was beneficial and had come to stay.

Mr. Tweed thought that the profession had been too generous with its specialised knowledge of meat inspection in the past. Now the lay inspector was telling the profession what was right. Meat inspection was a study to be practised. He complained that the training of the student was not done by men who were practising meat inspection. Concerning the remarks passed about the Ministry of Food authorising slaughterhouse managers to judge casualties, he felt he must state, in fairness to the Ministry of Food, that this was only in cases where the meat inspector was not available. One point which he thought Mr. Powley might be able to deal with concerned foot-and-mouth disease in abattoirs. The meat trade, often referred to it and the condemnation of carcases because of the disease without compensation.

Mr. J. O. Powley, in reply, said that he remembered one big outbreak of foot-and-mouth disease in an abattoir. As usual, the animals were slaughtered, many of them in a fevered condition. However, these fevered carcases were put in the refrigerator and when taken out were in perfect condition. There was, of course, the danger of infection from these carcases. He asked Mr. Thornton if he had any records of primary tuberculosis of the udder. It was on the increase and was often traced to infusion of the udder by a veterinary surgeon. He felt that more could be done where tuberculosis was found in "bobby" calves. Some effort should be made to trace the dams of these calves. He mentioned a condition which had been called "lime burn" in pigs. At one time this condition was thought to be due to pigs being railed in freshly limed trucks. However, it had been subsequently proved to be due to the rubbing of the skin of the buttocks on the floors due to the motion of the trucks.

Mr. Thornton agreed that foot-and-mouth infected carcases had been eaten with no harm caused to the consumers, but there was danger of spread if these carcases were released. He had never seen "lime burn" in pigs.

Dr. G. B. Brook thought that any objection to the electric stunning of animals was due to anti-Nazis: the method had been evolved by a Nazi. He mentioned a peculiar condition on imported hides which he had seen while on the Continent. The marks took the form of oak leaves on the under sides of the hides and it was thought that these marks were due to electric goads. He asked if Mr. Thornton could give a list of drugs which would be likely to cause condemnation of the carcase. He agreed with Mr. Thornton that it was well worth while to examine the trachea in cases of positive sputum. He found that often the lesion was found in the spaces at the junctions of the tracheal rings. He felt that the present method of grading animals was a great waste of time. Could they not be more efficiently graded *post-mortem*?

Mr. Thornton said that he thought the electric goad was excellent and was not harmful to the hide. He did not think the oak leaf marking of the hides was due to the goad. Ether, turpentine, carbolic and spts. ether nit. could be detected by smell on *post-mortem* examination, and also it would be inadvisable to administer aloes, mag. sulph. and chloral immediately before slaughter.

Mr. F. C. Scott wondered if the septicaemias were so very dangerous. He thought that with adequate bleeding the carcase would be rendered safe. Even anthrax carcases had been eaten without ill effect to the consumers. He did not think it necessary to condemn every pig's head in which lesions of tuberculosis were found. These lesions were more often due to avian infection and as such should be harmless to the human. He asked if lesions of tuberculosis were often found in voluntary muscle.

Mr. Thornton repeated that septic conditions were not safe and should be condemned. If there was ever any doubt, let the consumer have the benefit of it. It had been ascertained that one-third of cases of tuberculosis in the pig's head were due to avian infection and the other two-thirds due to mammalian. If it were possible to distinguish avian from bovine tuberculosis of the pig's submaxillary gland by microscopic examination he felt that there could be no objection in removing the avain infected gland, with its low pathogenicity for man, and passing the head for human food. Tuberculosis lesions were not often found in voluntary muscle but this was no reason for being more lenient.

Mr. C. Harvey observed that the use of the thermometer would be of great use in detecting the fevered carcase, used *ante-mortem*.

Mr. W. J. Guthrie said that a temperature was not always an indication that the carcase would not set well. Lambs killed suffering from pulpy kidney dressed and set well *post-mortem*.

Mr. J. M. McKellar did not agree with Mr. Thornton's assertion that miliary tuberculosis was always a killer. Frequently in cases killed for tuberculous udder one saw a miliary condition of the lungs well established. There was often in these cases a history of acute pulmonary symptoms from which the animal had recovered. He thought that the speaker might have mentioned tuberculosis of the eye. It was a fairly frequent lesion and was generally associated with miliary or acute disease.

Mr. Thornton felt that Mr. McKellar was basing his remarks on a mistaken diagnosis. If well-marked pea-sized nodules were found in the lung tissue this was an indication of a not recent blood infection; it could be classed as sub-miliary and the animal had recovered from it. Tuberculosis of the eye of the ox was not uncommon, and was not necessarily an indication of miliary or acute disease. It was an indication of generalisation.

TOWARDS A HEALTHIER NATIONAL HERD

"The new guarantee of a premium of 4d. a gallon for T.T. milk is making many dairy farmers think again about the advantages of clearing their herds of tuberculosis," writes the Agricultural Correspondent of *The Times* in a recent issue of that paper, and continues: "As a first step they are having their cows and other cattle put through the tuberculin test to find out how many react and would have to be replaced before they could get a T.T. licence. In some cases minor alterations to buildings and additional equipment may be necessary.

"There is likely to be an increasingly keen demand for heifers that have passed the test, and those who make a business of rearing heifers for sale are well advised to cater for this demand. Owners of T.T. herds often prefer to buy replacement stock privately, but no doubt auctioneers will be prepared to arrange more sales restricted to T.T. cattle.

"This development is all to the good. It will lead to healthier herds, and give the dairying industry a higher status in the public eye. But arrangements should be enforced at the same time to keep reacting cows off the ordinary markets. What happens too often to-day is that reactors to the tuberculin test are merely passed on to other herds. Although a cow that reacts is not necessarily giving tuberculous milk, she is a potential danger and once identified should be taken for slaughter. This is only consistent if the national policy is to rid our dairy herds of tuberculosis as soon as possible.

Bovine Diseases

"Progress towards the elimination of this and other costly bovine diseases has not been rapid. Dr. Wooldridge, in his presidential address to the National Veterinary Medical Association, mentioned that less than 3,000 veterinary surgeons are active in Great Britain, of whom about 2,000 are engaged in private practice and the rest hold appointments with the State, local authorities, and research institutes.

"There is scope for extension of the veterinary service, and as the plans to improve the quality of the nation's milk supply, set out recently in a White Paper, are put into effect, veterinary surgeons will take a much more important part in raising the standard of hygiene in milk production. The regular inspection of all herds will bring them into touch with those who most need assistance.

"There are signs of advance in recording the milk yields of individual cows. This should also contribute to greater efficiency and economy in production. The membership of the Milk Marketing Board's recording scheme is now about 12,000. This is not a high proportion of the total of 150,000 dairy herds in England and Wales, but it does mark an advance. More farmers would come in if they realised the value of milk record in herd management. So far milk recording has not been linked closely enough to advisory work. A mere mass of figures at the end of the year is of little interest to most farmers."

CLINICAL COMMUNICATION

The Use of Bismuth Salicylate for the Treatment of Buccal Warts in Dogs

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Crops of warts are commonly found in the buccal cavity of dogs, papillomatous and pigmented in appearance, often multiple due to the coalescence of the lesions, but frequently single. In old-standing cases, they are large, "cauliflower-like" and pedunculated. They are noticed at all ages, but appear frequently during the course of distemper or during convalescence after some debilitating disease. They produce no obvious pathological symptoms but mechanically interfere with the prehension and mastication of food. Similar warts have been encountered on the cornea of the eye.

The aetiology in every case may not be the same. Some arise from chronic irritation and are overgrowths of an inflammatory nature, but others have been shown to be due to a virus which has been tentatively classified with the dermatotrophic group of viruses. In man emulsions of warts injected intradermally have produced warts after an incubation period of four weeks. The virus passes the Berkefeld N candle, and is preserved by glycerin. Inclusion bodies have been described in the epithelial cells of the growth. This condition does not appear to be neoplastic in nature.

Previous treatment has been on the lines of ligaturing the warts and allowing them to atrophy, or surgical removal. Antiseptic mouth washes have been used and also the application of sodium bicarbonate. Contra-indications to surgical interference are due to the very vascular nature of the warts and their liability to recur. A. H. Bryan, Baltimore, U.S.A., advises vitamin K therapy combined with a diet deficient in biotin (a factor of the vitamin B complex). Whether this treatment has been adopted in this country is not known.

It has been observed that the use of bismuth salicylate has met with success in the treatment of condylomata lata occurring in the vagina of women suffering from syphilis. These growths occur at the junction of skin and mucous membrane, and because of the moisture of that area often assume modified forms very similar to the buccal warts of dogs.

Bismuth and its salts are too toxic to be given by any parenteral route other than subcutaneously or intramuscularly. Orally, the drug produces no effect on the condition. The intramuscular route appears to be the best. In syphilis small amounts pass into the circulation and tissues, destroying the spirochaetes and inhibiting their multiplication. It is not possible to get into the circulation a concentration of bismuth sufficient to produce immediate and complete destruction of the organisms and treatment aims rather at prolonged maintenance of maximum tolerated concentration.

Soluble preparations are more rapidly absorbed but more liable to produce toxic effects. After injection bismuth is supposed to form a compound (bismoxyl) with the body proteins, and in this form it has extremely potent anti-bacterial powers, and the bismuth may act as a catalyst. The "bismoxyl" compound is formed in the tissues whether bismuth is injected as the insoluble metal in fine division, or as a soluble or insoluble salt. The rate of absorption, excretion and the amount of local necrosis and pain vary with the preparation of bismuth used, and also with the medium in which it is dissolved or suspended. The most suitable preparation for intramuscular injection is a suspension in oil. The preparation used for the cases treated was the Parke, Davis & Co. "Bismuth Salicylate in Oil (Sterile)." This contains :—

2 grs. Bismuth Salicylate
¼ gr. Chloretone
in 1 c.c. olive oil.

Normally, four or six injections are given at weekly intervals.

No case will be recorded as outstanding, but it is sufficient to say that over 200 cases have been treated in the practice of Mr. A. J. McCarmick, M.R.C.V.S., of Leeds, to whom we are greatly indebted for his observations and information.

Summary

In all the 200 cases treated there has been complete recovery from the condition and in no case has there been a recurrence. No toxic effects from the bismuth injections have been observed. Cases complicated by eye lesions also showed complete recovery.

Therefore, in our opinion, intramuscular injections of an oily suspension of bismuth salicylate are specific in the treatment of buccal warts in dogs.

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ABSTRACTS

[Trichomoniasis in Cows. Kerr, W. R. (1943.) *Vet. J.* **99**. 95-106 and 145-151.]

In describing the symptoms manifested by naturally infected cows on North-of-Ireland farms, Kerr states that, in his 14 years' experience, he found the symptoms to vary according to the following factors: (*a*) the degree and virulence of the trichomonad parasite; (*b*) secondary bacterial infection; (*c*) the farming system practised; and (*d*) constitution and environment. The forms which the disease assumes can be grouped into five categories, which in the order of their importance are: (1) a low-grade endometretis; (2) a catarrhal endometritis; (3) vaginitis and cervicitis; (4) pyometra; and (5) anoestrus. Eighty per cent. of affected cows fall into categories (1) and (2), vaginitis is a feature of nearly all groups and categories, (4) and (5) are of equal importance.

With regard to vaginitis, he points out that this, which is the first symptom, makes its appearance about the third day after service by an infected bull. It reaches its peak about the ninth day, but the intensity of the condition varies greatly. In some the symptoms and lesions disappear in four or five days; in others they pass unobserved. In the acute phase of the disease haemorrhagic papules are seen around the clitoris, also horizontal "pencil lines" of inflammation on the sides of the vagina, which after the ninth day give place to a "dark diffuse vaginitis with a well-marked proliferation of the surface lymphatics." This "gives the vagina a harsh feeling to the touch." Flecks of whitish creamy-yellow or golden-yellow pus, depending on the bacterial flora of the vagina, are usually present around the clitoris, but this later diminishes and may disappear altogether unless the cow returns to service, when it reappears. Cervicitis, which the author has observed on many occasions, is not regarded as a simple trichomonad infection. The protozoan may be a predisposing factor but the actual lesion is believed to be a secondary infection.

In the group characterised by low-grade endometritis the only symptom that may be shown is a transient vaginitis. Oestrum returns at three or six weeks with little or no evidence of discharge. When mated at each subsequent period the cow fails to conceive, but if she is not mated for a period of six months or longer she may conceive and calve normally. Herds with the low-grade endometritis form may undergo spontaneous recovery without any form of treatment.

In the type characterised by catarrhal endometritis conception is followed by death of the foetus from six to twelve weeks after mating. A slight white mucoid discharge appears which increases in quantity and becomes more fluid until the peak is reached about 14 days after its first appearance. Thereafter it gradually subsides and reassumes its mucoid character but it may persist for six weeks or more. A small (mouse-size) whitish somewhat macerated foetus showing no evidence of putrefaction and complete in its membranes may be aborted. When the discharge ceases, the animal, though untreated, may come into oestrum. A few conceive and calve normally but the majority remain sterile. The best time for the detection of the parasite is during the pre-peak period. Repeated examinations may be necessary as its presence in the vaginal discharge is transient. The agglutination test is particularly useful for this group. About 80 per cent. give a positive reaction.

If the foetus dies *in utero* and is not expelled, pyometra may develop with complete maceration of the foetus. The uterus is enlarged, and the contents are fluid, slightly thick, usually odourless, cream-like in consistency, and whitish in colour but may assume a yellowish colour if *C. pyogenes* infection is present. The cervix is closed and in most cases a corpus luteum persists but this is not regarded as of cardinal importance. Rectal examination of the uterus gives a doughy, fluctuating feel, the organ is distinctly flaccid and both horns are equally distended. No cotyledons or foetal bones can be detected.

The fluid from the uterus is rich in cells and trichomonads are numerous. A considerable proportion show high positive titres to the agglutination test.

Up to 10 per cent. of affected cows in diseased herds may be in state of anoestrus but as a rule the incidence is lower than this. The poor condition of many heifers during the period of trichomonad sterility is a complicating factor. Rectal examination may reveal ovaries with a persistent corpus luteum or in anoestrus heifers, small and inactive ovaries.

Discussing symptoms as a whole, the author states that apart from cows returning to service at irregular periods no particular symptom or group of symptoms can be regarded as pathognomonic of trichomoniasis. Neither can the consistency or colour of the discharge be regarded as specific. There should be no confusion with *Br. abortus* infection if blood samples are subjected to appropriate agglutination tests. Kerr has failed to confirm the claims of other observers that *Trichomonas foetus* inhabits the blood stream of bovines.

Diagnosis.—This should be based on herd history, confirmed by serological tests or by the direct examination of vaginal secretions.

Trichomonads can be demonstrated by direct examination of wet preparations of vaginal secretions following service, abortion, catarrhal endometritis and in pyometra. Such examinations are not completely satisfactory as the presence of the parasites in the discharge is sporadic and they appear to be present only in about 10 per cent. of specimens. The actively motile trichomonad is easily recognisable and can readily be seen under a low power of the microscope if the discharge is mixed with three parts of saline and preferably incubated for an hour at 37° C. The survival of the parasite is very variable but positive results have been obtained by the author up to 24 hours after collection. "The attempt to detect dead trichomonads in a wet film is, however, a useless procedure."

The author states that in Northern Ireland the direct examination method has become secondary to the agglutination test. It is emphasised, however, that the purpose of the agglutination test is for the diagnosis of trichomoniasis *in the herd* and not for the detection of individually infected animals. All infected animals do not react. The test has proved so reliable that the Ministry of Agriculture in Northern Ireland has made the examination of blood samples a routine service to the veterinary practitioner.

Treatment.—Neilsen's technique was adopted in Northern Ireland in 1927, the iodine used being 200 c.c. of a 1 : 200 solution. Very successful results were obtained when this treatment was combined with precautionary measures to prevent reinfection. Experience has since shown that strength of the iodine solution must be based on the clinical condition of the individual cow. In low grade endometritis cases a 1 : 600 solution is sufficient but in the group classified as catarrhal endometritis a 1 : 400 solution is preferred. The point of the catheter is inserted just beyond the inner ring of the os uteri and a quantity varying from 3½ to 5 ozs. injected. It is unnecessary and an extremely dangerous procedure to insert the catheter into the horns of the uterus. With the above procedure the solution penetrates to all parts of the uterine mucous membrane and the risks of rupture are negligible. (Readers requiring further details of technique should consult the original article.) Fifteen years' experience has shown that only one intra-uterine injection of iodine is called for in cases of low-grade endometritis and the more simple cases of catarrhal endometritis. In chronic and more purulent cases a second injection is recommended.

Prognosis.—Where iodine treatment has been properly carried out in Groups I, II, III and V, using a 1 : 400 solution, the genitalia of the treated animal may be declared free from trichomonad infection. The treated animal is, however, susceptible to reinfection if mated with an infected bull.

With regard to future breeding possibilities, it is said that over 90 per cent. of low-grade endometritis cases respond to treatment but in the catarrhal endometritis group, prognosis must be guarded, results depending on whether or not the salpinx is involved. Anoestrus cases respond to hormone and iodine treatment.

The essential factors in the successful treatment of this disease are early application of iodine treatment, together with necessary preventive measures. Artificial insemination appears to provide a means for controlling trichomonad infection.

Two series of experiments are described in which 15 heifers were artificially infected with *Trich. foetus.* The various animals showed the characteristic changes of the many forms of the disease met with in natural infection. An important feature was the sporadic appearance of the parasite in the vaginal secretions.

G. D.

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[Brucellosis in Swine: I.—The Interpretation of Low Titre Reactions in Experimental and Field Infections. CAMERON, H. S. (1943.) *Amer. J. vet. Rec.* 4. 169.]

While it is well recognised that infection with *Br. suis* may cause breeding difficulties in swine, difficulty is encountered in the interpretation of the agglutination test and some doubt exists as to the titre indicative of infection.

The results of one test on animals in 21 herds are recorded. From eleven of these with no history of breeding troubles, 226 were tested and found to be negative in all serum dilutions. The remaining ten herds had a history of abortion and sterility and from these 327 were tested; 152 reacted in a serum dilution of 1:100 or higher, 112 were negative and 63 reacted in the intermediate dilutions.

Inoculation experiments on three-month-old animals showed that in the majority of cases low titre reactions do not remain constant but become either completely positive or negative within ten weeks of infection.

A method of control by segregation of young stock and monthly blood tests is suggested.

A. W. T.

QUESTIONS IN PARLIAMENT

Dairy Herds (Inspection)

Sir P. Hurd asked the Minister of Agriculture what steps are being taken to increase the number of veterinary practitioners for the inspection and supervision of dairy herds; and whether he will provide greatly increased scholarship facilities at the veterinary colleges and universities?

Mr. Hudson: The Secretary of State for Scotland and I have asked the Committee on Veterinary Education, whose first report was published in 1938, to review the recommendations they then made in view of the need now clearly shown for an increased number of veterinary surgeons and for the provision of the best possible training for the profession; and we hope shortly to receive a report from that Committee. I shall be in a better position to make a statement on the matters raised in my hon. Friend's Question when I have had an opportunity of considering the Committee's recommendations.

NOTES AND NEWS

The Editor will be glad to receive items of professional interest for inclusion in these columns.

Diary of Events

Dec. 6th.—Oral Examinations begin in Dublin.
Dec. 6th.—All changes of address for the Register of Veterinary Surgeons to be indicated to the Registrar at 10, Red Lion Square, W.C.1.
Dec. 10th.—Meeting of the South Wales Division, N.V.M.A., at Swansea.
Dec. 15th.—Meeting of the Section of Comparative Medicine, Royal Society of Medicine, 1, Wimpole Street, W.1, 2 p.m.
Dec. 16th.—N.V.M.A. Committee Meetings.
Dec. 17th.—**Meeting of Council, N.V.M.A.**, in London.
Jan. 5th, 1944.—R.C.V.S. Committee Meetings.
Jan. 6th.—**R.C.V.S. Council Meeting.**

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N.V.M.A. Council and Committee Meetings

The next meeting of Council, N.V.M.A., will be held in London on Friday, December 17th, with Committee meetings the day before.

Members of Council who intend to be present at these meetings are advised to make early application to hotels should they wish to reserve accommodation.

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OBITUARY

Death of Mr. Geoffrey H. Livesey, M.R.C.V.S.

Our readers will be grieved to learn that Mr. Geoffrey Herbert Livesey passed away at 4 a.m. on Tuesday last after having been confined to bed with angina pectoris for the previous ten days. In a memoir to be printed in our next issue tribute will be paid to the outstanding part played in the activities of the profession by Mr. Livesey, who was President of the Royal College of Veterinary Surgeons 1938-39, and who retired from practice in 1922 in order to devote himself to the affairs of the National Veterinary Medical Association in the combined capacity of Secretary and Editor of *The Veterinary Record.*

The funeral will take place at Charlton Cemetery, near Blackheath, on Monday next, at 11.30.

Captain G. Dunlop Martin, M.R.C.V.S.

Another death which will also come as a profound shock to a wide circle of friends, is that of Captain George Dunlop Martin, M.R.C.V.S., which took place on Saturday last after an illness of very short duration, double pneumonia developing from an acute attack of influenza.

Captain Dunlop Martin, who left Westcliff some years ago to reside at Shenfield, Essex, was widely known as an able small-animal practitioner. His loss will be severely felt by the Central Veterinary Society, of which he was one of the oldest members. He was also a keen supporter of the parent body, serving on Council, N.V.M.A., as a representative of that Society. Further reference will be made in an early issue.

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Veterinary Inspection of Accredited Herds

The Minister of Health, after consultation with the Minister of Agriculture, has made regulations* "in order to give effect, so far as affects accredited milk herds, to the proposals for the more satisfactory arrangement of veterinary examinations set out in the White Paper 'Measures to Improve the Quality of the Nation's Milk Supply' (Cmd. 6454, July, 1943)."

The regulations provide that "every milch cow shall be submitted to an examination at such times and as often as may be required by the Minister of Agriculture and Fisheries not being less often than once a year, and in the case of an examination made by a private veterinary surgeon the veterinary surgeon's certificate thereof shall be sent to the licensing authority within seven days after the date of such examination." These regulations have been circulated by the Ministry of Health to all appropriate local authorities.

* S. R. & O. 1943, No. 1645, "The Milk (Special Designations) Regulations, 1943," amending paragraph I of section A of Part II of the Third Schedule to the Milk (Special Designations) Order, 1936 (*b*), as amended by the M. (S.D.) Amendment O, 1938 (*c*).

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PERSONAL

Forthcoming Marriage.—Monkhouse—Mettam.—The marriage has been arranged, and will shortly take place, between Captain Allan D. Monkhouse, only son of Colonel and Mrs. Monkhouse, London, and Florence Margaret, only daughter of Captain and Mrs. R. W. M. Mettam, Vom, Northern Nigeria.

. . . . .

We much regret that, through a printer's error when making a correction in the address, the name of the writer, Mr. N. Robert Turnbull, was omitted from the contribution to the correspondence column made by him in our last issue on the subject of the Veterinary Surgeons Acts (Amendment) Bill.

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VETERINARIANS IN THE DEVELOPMENT OF THE AFRICAN HIDE INDUSTRY

In view of the references to the above made in the recent N.V.M.A. Congress discussion on "The veterinary surgeon in the development of the Colonies," particular interest attaches to the following extracts from the report on the African hide industry issued by the Colonial Office.

"The production of hides in East and West Africa is one of the most important contributions that our Colonies are making to the Allied war effort. Many thousands of tons of high grade hides a year are now coming to this country from Africa and as an official in London said: 'We simply couldn't do without them in the present circumstances.' The Ministry of Supply buys all hides available in British Africa and they now form a substantial proportion of Britain's total imports. . . . Some 60 per cent. are used for uppers of army and civilian footwear; 35 per cent. of a heavier type, mainly from Kenya, make soles for army boots.

"A great deal of the credit for the development of the African hide industry goes to the officials in the Colonial Veterinary Departments, who, 20 years ago, saw the possibilities of the trade. At that time three quarters of the hides in Africa were wasted, while the rest were used for clothing of a primitive type and for the slings in which African mothers carry their babies. And the hides that were prepared were of a quality that could only be called indifferent. To begin with the flaying was carried out in such a way that cuts and gashes in the hides were the rule rather than the exception, and, secondly, all the hides were sun dried. The African herdsmen pegged out their hides in the full sun with the result that as the hide contracted its texture became uneven and weakened. The first important development was the introduction of shade drying. The Veterinary Department officers demonstrated the new method, which involves the use of thonged, adjustable frames, and also taught the Africans better ways of flaying. Africans were instructed in the improved methods of treating hides and demonstrated them at the drying sheds erected at villages. More highly trained Africans supervised these village stations and organised central depots. The Veterinary Officer and the Stock Inspector in each district maintained close supervision over the whole industry.

"The fall in prices during the late twenties and early thirties made it difficult to persuade African stockowners of the advantages of good hide preparation, but, as more adequate returns were received, the industry developed. Legislation placing trading and grading upon a proper basis has been of the utmost benefit. The outbreak of war found the industry well organised and able to maintain a supply of hides reliable both in quality and quantity. Since the war, intensified supervision has resulted in the minimum number of hides being wasted because of flaws and the hides of smaller animals are now prepared to ensure that no available source is neglected. Great help has been given to the industry by the Hides and Skins Committee at the Imperial Institute in London.

"The Leather Control of the Ministry of Supply watches closely for any room for improvement and advice is constantly sent back to the Colonies. Officers on leave in this country are often able to take valuable advice back with them after they have watched the various processes at this end. The Ministry of Supply gives high praise to the quality of the hides. One official said: 'Complaints are very few and far between. The hides are well graded, they go straight to the tannery and, altogether, are an extremely marketable product.'

"The effects of the industry, so far as they concern Britain, are obvious, and there is no doubt that without the supply of hides from Africa the leather situation would be tighter than it is. And its beneficial effects in Africa can hardly be over-estimated. The African stock farmer is now provided with every incentive to improve his stock and he is beginning to see, for the first time, that it is a better proposition to have 80 good animals with valuable hides than 100 poor beasts. The improving herds are naturally closely connected with other aspects of African development. Dairy farming is a closely allied subject, so is the use of improved manuring methods in African agriculture.

"In addition, the steady demand for hides, which there is every reason to hope will continue after the war, has already provided many thousands of Africans with the means of obtaining a higher standard of health."

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CLAIMS FOR VITAMIN PRODUCTS

Further facts regarding the new regulations (S.R. & O., 1943, No. 1553) controlling the advertising of food are now available. In a White Paper issued on November 9th the Minister of Food points out that the necessity for restricting claims or suggestions in advertisements regarding the presence of vitamins and minerals in food is in part the direct consequence of the Government's nutritional policy. It is essential for the health of the nation that the value of protective foods should be emphasised and this policy must not be exploited in relation to foodstuffs where the protective element is absent or present in ineffective quantity. Emphasising this point in the House of Commons, Mr. Mabane (Parliamentary Secretary to the Ministry of Food) has said that while a small minority of manufacturers have exploited the national nutritional policy, reputable food manufacturers, equally with scientists and members of the medical profession, recognise the harm that is being done by misleading advertisements of this nature and it is with the object of bringing these to an end that the new powers have been taken.

The regulations will rectify the anomalous position whereby under the Pharmacy and Medicines Act, 1941, the label of recommended medicines containing vitamins and mineral constituents must have a quantitative disclosure of these constituents, while no such disclosure has been required in respect of foods. It is the intention of the Ministry to ensure that proceedings are taken against the manufacturer who is responsible for false or incomplete descriptions of foods through labels or advertisements and not against a large number of small retailers through whom the product reaches the public. No undertaking has been given, however, that large stocks which are already in the hands of retailers can continue to be sold for a long and indefinite time. We await now the promised regulations which will show how the vitamin and mineral contents of articles of food must be indicated on labels and in advertisements.—*Pharm. J.*

CORPORATIONS

In his presidential address in November, 1942, Dr. W. R. Wooldridge, late President, N.V.M.A., put forward the interesting suggestion that for the effective control of animal health in the circumstances prevailing in Great Britain something in the nature of an Animal Health Corporation might well be considered. It is perhaps not out of place to say that this fertile idea has not been examined with the care it merits by members of the veterinary profession. Nearly a year later, namely in the last week of September of this year, a similar plan was advocated by the representative body of the British Medical Association "as the most promising means of building and administering a national medical service."

The idea of "a corporate body" is carefully analysed in a recent issue (October 2nd) of the *British Medical Journal*, which declares that "strangely enough" it is "no novelty," and continues: "Nearly a hundred years ago, in 1848, this country had a General Board of Health. That board was not responsible to any Minister. The principle of Ministerial responsibility, now recognised as vital if the people are to retain any control over a highly specialised executive, was then fighting for existence against the principle of 'expert' or judicial administration. The Board of Health, the Poor Law Commission, and other similar independent bodies were experiments in applying the second of these two theories to the problems of a new age. The Poor Law Commission perished in 1847 because, as Walter Bagehot (*The English Constitution*, p. 189) said, the House of Commons would not let it alone. In 1858 the Board of Health followed it, having lost its independence four years earlier. Those were the years of the *Communes* and Garibaldi: peoples all over Europe were revolting against autocratic rule, and modern democracy was being painfully born. Ministerial responsibility, however, has the defects of its qualities. Because a Minister knows that the most trivial act of any of his subordinates may lead to a question or derogatory speech in Parliament, he and his department tend to aim at forestalling complaint rather than at achieving progress. Decisions are referred through an unwieldy hierarchical pyramid to the man at the top instead of being taken by the officer face to face with the problem. Overmuch labour is devoted to records and statistics. These and other drawbacks—not insuperable, nor peculiar to Government by responsible Ministers—partly explain the survival of the public board as an administrative service, and its recent access of scope and importance. The variety of public services run by more or less autonomous boards is very large. It includes port facilities, the supply of water to London and electricity to the whole country, broadcasting, forestry, London passenger transport, war-time agriculture, produce marketing, land drainage, the relief of distress, and the control of the medical, dental and nursing professions" (and, it might be added, the veterinary profession, and now, to a large measure, medical research and veterinary research).

"Superficially the autonomous board might seem to owe its success to its freedom from Parliamentary and Ministerial control over its day-to-day functions. Yet a closer examination shows this appearance to be a fallacy. The reverse is the fact: a board's immunity from Parliamentary criticism and Ministerial interference is earned by its success in satisfying the public. The Port of London Authority, the Metropolitan Water Board, and the London Passenger Transport Board have never excited much criticism in Parliament, just because their functions and their discharge of these have never aroused acute political controversy. When the British Broadcasting Corporation's charter was renewed seven years ago Parliament freely criticised its doings in detail. The Unemployment Assistance Board was set up in 1934 by a Government which was misguided enough to think it could escape the odium of reducing dole payments by giving the task to a theoretically independent body. This Board instantly became the centre of such a furious political storm that the Government escaped extinction only by suspending for two years its discretion to pay allowances lower than the transitional rate of benefit. The whole Parliamentary history of public boards from the earliest times shows that if Parliament really wants to scrutinise and criticise them Parliament will succeed in doing so just as if they were Government Departments run by a Minister. No statutory provision will avail to insulate them from substantial Parliamentary pressure, or from the consequent Ministerial pressure, without injuring the Government of the day. The utmost their autonomous status does is to enable the Minister to resist questions and criticisms which touch administrative detail and are not backed by any considerable public feeling. This protection from 'sniping' is admittedly important in quasi-commercial boards. Nevertheless, a board administering a comprehensive national health service under the Beveridge plan—a service which would affect nearly every citizen in the most intimate details of his life—would inevitably attract continuous and intense interest, criticism, controversy, and without doubt also hostility. Because most of its beneficiaries would belong to the poorer classes and many to trade unions, much of this feeling would be political in expression if not in origin. Unless the appropriate Minister were prepared to take the fullest responsibility for it, stand wide open to criticism of all kinds, and entertain willingly and positively every suggestion for improvement, the board would not live a month.

"If, then, it is a fallacy to suppose that a corporate body created for this purpose could shelter behind its 'independent' status, its creation would have to be justified on the ground that it would be likely to build and run a comprehensive national medical service more satisfactorily than a Government department could. On this question there are two powerful and conflicting bodies of opinion. The advocates of the corporate body point to the shortcomings of Government departments: their lack of initiative, their arrogance, dilatoriness, ignorance of real life, complacency, excessive centralisation, parsimony, and other faults from which departments suffer. They point, on the other hand, to the boldness, originality and efficiency with which the London Passenger Transport Board, the B.B.C. and the War Agricultural Executive Committees have overcome difficulties, and the flexibility with which they tackle new problems and meet new demands. The advocates of the Government department condemn the tendency of the independent and irremovable board to ignore or resist popular feeling, and its insulation from Parliamentary influence over such matters as its treatment of staff: they brand its relative autonomy as hostile to democratic principles, as the thin end of a Fascist wedge. They declare, moreover, that whatever may be said for 'public' quasi-commercial services such as electrical supply and broadcasting, 'social' services paid for by the State cannot be fittingly handed over to an autonomous board but should be run by a department under a Minister fully responsible to Parliament. They assert that a Minister is able under the present departmental system to find sufficiently talented and creative persons within the Civil Service, and that he may also bring anyone he pleases into the department *ad hoc* from outside; he may if he likes form them into a board, as in the Defence departments or the Post Office, or he may adopt some other means of co-ordinating their work. The partisans of departmental enterprise point to the efficiency of the Post Office, the Stationery Office, the Children's Branch of the Home Office, and many other departments.

"The truth is probably that in running a social service far more depends upon the personal qualities of the administrators and far less upon the mechanism than is usually admitted. But the fact remains that on two occasions the representative body [of the B.M.A.] has voted in favour of a public Corporation as the most satisfactory form for the central administration of medical and health services. The debate on this [at the meeting of the representative body] brought forth the highest level of utterance of the whole meeting. Those present listened with sustained interest. It is clear that behind the approval of a public corporation lay a deep-felt distrust of an unreformed Ministry of Health. [A change in Minister has since been made.] And this was itself based on a still deeper distrust of the influence of party politics on the development of medicine, and also of the effect on it of the Civil Service mind and procedure. It seems clear that, until this question of central administration is settled to the satisfaction of the medical profession, no Government will be able to count upon the wholehearted co-operation of the doctors of this country in working out plans for the development of a comprehensive medical service."

No apology need be made for the reproduction of this closely reasoned statement of the case for and against the setting up of a corporation, even though it refers to the problems of the medical profession. As we realise, close comparison between the affairs of two such seemingly nearly related bodies as the medical and veterinary professions is difficult. The drawing of conclusions by analogy is dangerous. Let us admit, in strict fairness, that some things have been done by the Animal Health Department of the Ministry of Agriculture that could not possibly be better done by any authority otherwise constituted. In particular, we have in mind the manner in which the Department has dealt with the great epizoötics. So far as some of them are concerned, such as cattle plague, they have been eradicated, and, so far as we can foresee, are never likely to repeat their menace again. Some are, as in the case of foot-and-mouth disease, in the face of untold difficulties, being kept effectively in check. It has been otherwise, however, with the large mass of insidious disease and debility that has now come to be recognised as a sore handicap to agricultural prosperity. Of its own initiative, shortly after the outbreak of this war, the N.V.M.A. took matters in hand to have these conditions brought under some manner of check with the co-operation of departmental authority. Great credit is deserved by the few who had the enterprise to initiate this action. But far more is demanded in the shape of staying power to "see it through." Would the setting up of a corporation at once as the controlling authority over

the scheme when it was launched have dissipated suspicions and doubts from the minds of the older-established practitioners, fearful as they must have been that anything that might be construed as a promise made to their clients that was likely to end in failure would shatter the confidence which had been won through hard service and tactful dealing, attributes such as are not invariably associated in the public mind with salaried officials? And would not such a corporation have taken any adventitious exercises, readily seized upon separately by departmentalism for their easy *réclame*, within the scope of its general functions—such as, for example, the proposed scheme of calfhood vaccination against contagious abortion?

An onlooker must often wonder whether a profession, like the medical profession—and the veterinary profession cannot escape the implications of the question—knows its own mind best as regards what is wisest in its own interests. Those who have reached late middle age can recall the stormy meetings inside the medical profession in 1911 to protest against the institution of the Panel System under the National Health Insurance Acts. "What was surprising," said Sir Weldon Dalrymple-Champneys in his presidential address on October 22nd last before the Epidemiology Section of the Royal Society of Medicine, "was that a system which aroused such antagonism at its beginning should have now established itself so firmly in the affections of the profession in the course of 32 years, that a large section regarded the extension of its provisions to practically the whole population as the best way of bringing about a comprehensive medical service."

We need to take heed in our own profession that any sense of false pride does not prevent us likewise, perhaps at this very moment in our history, from keeping our minds open wide enough to admit what is for our own ultimate good and what may indeed raise us still higher in the esteem of the community.

J. T. E.

CORRESPONDENCE

Letters to the Editor should reach the Office not later than by the first post on Monday morning for insertion in following Saturday's issue.

The views expressed in letters addressed to the Editor represent the personal views of the writer only and must not be taken as expressing the opinion or having received the approval of the N.V.M.A.

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"THE PROBLEMS OF PIG CLUBS IN WAR-TIME"

Sir,—Living in a rural district where a large number of individuals annually feed one or two pigs, principally for their own consumption, I was interested in Mr. Blair's paper and the discussion published in *The Veterinary Record* of November 13th.

Most villages or districts have their own clubs. In practice these clubs act as an insurance concern to the pig owner; the club is there to cover any loss involved to the members' pigs. Some clubs insure with a large company such as the Farmers' Union Insurance Society to meet unexpected losses which may occur. Under the present rationing regulations pig club members enjoy the privilege of obtaining extra feeding-stuffs over non-members.

In this locality swine erysipelas is responsible for 95 per cent. of disease encountered in feeding pigs. This is usually of the acute or subacute types and responds well to treatment with large doses of erysipelas serum. Mention in Mr. Blair's paper and the discussion was made of the preventive inoculation of newly purchased pigs with erysipelas serum, but none of the simultaneous use of vaccine. The serum alone gives a passive immunity of about three weeks' duration, whereas the serum-vaccine method gives an active immunity for five to six months which may be increased to a year if a second dose of vaccine is given one to two weeks later. I strongly recommend all clubs to adopt the serum-vaccine method, as I consider that, in addition to being a successful preventive treatment, it has a beneficial effect on the pigs. I have frequently had pig owners say to me that their pigs have "done well" since they were inoculated.

I do not think the value of cattle potatoes was sufficiently stressed. I have known cottagers to feed pigs entirely on potatoes and household scraps and attain satisfactory weights. During the past two years thousands of tons of surplus potatoes which could have been utilised for stock feeding have rotted in clamps.

Mr. Blair's optimum weight of eleven score lb. dead weight at six months old is in my opinion impossible in war-time and improbable in peace-time. Weaned piglets would require milk or milk substitute to cover that difficult period which he rightly states occurs between weaning and 3½ months old.

I totally agree with Mr. Pickup's remarks on the disposal of casualty feeding pigs at the Ministry of Food slaughtering centres. It is both food saving to the country and financial saving to the club, especially as the price of casualty pigs compares very favourably with the marketed article. It is important, however, that the ailing pig be sent to the slaughtering centre as soon as possible in order that the best use may be made of its carcase. I also agree with Miss Joshua's suggestion that unthrifty pigs be disposed of: with these the first loss is the best, and I advise their disposal through the casualty channels.

Yours faithfully,

Bourne, Lincolnshire. PHILIP E. EMSON.
November 20th, 1943.

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VETERINARY EDUCATION: THE "ONE-PORTAL SYSTEM"

Sir,—I have yet to be convinced that there is anything seriously amiss with the present standard of veterinary education. I am, however, quite certain that if it is beyond the powers of the various affiliated veterinary schools to prepare and present efficient candidates for examination, it is certainly ridiculous to expect that outside authorities such as the governing bodies of universities can do so. It would be interesting to have the opinions of the examiners who are appointed from time to time, on the relative merits of candidates from a university, and a veterinary school.

Nobody will deny that the Draft Evidence for Committee on Veterinary Education, with its appendices, is very well conceived, and has dealt with the subject in a very statesmanlike way, and its authors deserve every praise for the time, trouble and ability they have dispensed. But its assumptions and conclusions have no solid foundation. In paragraph 2, page 85, of the Supplement for July 31st, no less than two "IFS" occur; and it is on these that the proposal that the profession needs *to be doubled* is based. Should these two conditions not materialise, what then? Are we not putting the cart before the horse?

The Draft suggests that a 25 per cent. increase could be absorbed in the near future. This really means that if there are 2,400 veterinary surgeons in practice in this country now, we could absorb another 600 in the near future. The fact is, that we have been increasing the Register for the past few years at the rate of more than 100 a year, and in the next five years we shall add 500 or 600 names over and above deaths, all supplied from *our present veterinary schools*.

I do not personally think it matters a bit that the offending paragraph has been rescinded, for it represents a conclusion which, nevertheless, the universities concerned are likely to consider as the logical conclusion to which the preceding paragraphs tend.

Yours faithfully,

"Rothiemurchus," J. F. D. TITT.
St. Cross, Winchester.
November 20th, 1943.

WEEKLY WISDOM

Let us first understand the facts, and then we may seek the cause.
—ARISTOTLE.

DISEASES OF ANIMALS ACTS, 1894 TO 1937, AND AGRICULTURE ACT, 1937 (PART IV).

Summary of Returns of Confirmed Outbreaks of Scheduled (Notifiable) Diseases

Period	Anthrax	Foot-and-mouth	Parasitic Mange*	Sheep Scab	Swine Fever
Nov. 1st to 15th, 1943 ...	9	—	1	20	34
Corresponding period in—					
1942 ...	16	49	—	53	12
1941 ...	8	1	—	9	18
1940 ...	27	14	—	22	239
Total Jan. 1st to Nov. 15, 1943	253	15	7	195	481
Corresponding period in—					
1942 ...	308	601	26	221	412
1941 ...	362	260	17	169	1,014
1940 ...	497	49	15	163	4,450

NOTE.—The figures for the current year are approximate only.
* Excluding outbreaks in Army Horses.